said first axis for said group which is different than either the angle of reflection from said at least one grouped micro mirror of said first MEMS device and the angle of reflection from said at least one grouped micro mirror of said second MEMS device when neither one of the angle of reflection from said at least one grouped micro mirror of said first MEMS device and the angle of reflection from said at least one grouped micro mirror of said second MEMS device is zero.

Unchanged claim 2

2. The invention as defined in claim 1 wherein said first number and said second number are the same.

Unchanged claim 3

3. The invention as defined in claim 1 further comprising a plurality of optical source coupled to supply input light to said first MEMS device.

Unchanged claim 4

4. The invention as defined in claim 1 further comprising a plurality of optical source coupled to supply input light to said first MEMS device, wherein at least one of said optical sources are one of the group consisting of an optical fiber, a laser. a light emitting diode, light source, and a planar wave guide.

Unchanged claim 5

5. The invention as defined in claim 1 further comprising a receiver coupled to receive output light from said second MEMS device.

Unchanged claim 6

6. The invention as defined in claim 1 further comprising a receiver coupled to receive output light from said second MEMS device, each of said receiver being one of the group consisting of an optical fiber, a photo detector, and a planar wave guide.

Unchanged claim 7

7. The invention as defined in claim 1 wherein said first imaging system reproduces an angle of reflection of the light from each of said micro mirrors of said first MEMS device

Unchanged claim 8

8. The invention as defined in claim 1 wherein said overall effective angle for said group is a sum of said angle of reflection from each of said micro mirrors of said group.

Unchanged claim 9

9. The invention as defined in claim 1 further comprising a field lens for receiving light reflected by said second MEMS device.

Unchanged claim 10

10. The invention as defined in claim 1 further comprising a field lens through which light passes prior to being incident onto said first MEMS device.

Unchanged claim 11

11. An optical switch, comprising

a first micro-electro mechanical system (MEMS) device containing a first number of micro mirrors;

a second micro-electromechanical system (MEMS) device containing a second number of micro mirrors; and

a first imaging system optically coupled to said first MEMS device so as to produce an image of each of said micro mirrors of said first MEMS device on a corresponding micro mirror of said second MEMS device; and

a mirror for receiving light reflected by said second MEMS device and reflecting said light back toward said second MEMS device;

whereby at least one of said micro mirrors of said first MEMS device is grouped with at least one of said micro mirrors of said second MEMS device such that the angle of reflection from said at least one grouped micro mirror of said first MEMS device and the angle of reflection from said at least one grouped micro mirror of said second MEMS device combine to produce an overall effective angle for said group.

Unchanged claim 12

12. The invention as defined in claim 11 wherein said mirror is of a type selected from the group of types consisting of: planar and curved.

Unchanged claim 13

13. The invention as defined in claim 1 wherein said first number of micro mirrors and said second number of micro mirrors are the same.

Unchanged claim 14

14. The invention as defined in claim 1 wherein said first number of micro mirrors and said second number of micro mirrors are different.

Unchanged claim 15

15. The invention as defined in claim 1 wherein the size of said micro mirrors of said first device is the same as the size of said micro mirrors of said second device.

Replacement claim 16

16. (Amended) The invention as defined in claim 1 wherein the size of said micro mirrors of said first device is different than the size of said micro mirrors of said second device.

Unchanged claim 17

17. The invention as defined in claim 1 wherein said imaging system is a telecentric system.

Unchanged claim 18

18. The invention as defined in claim 1 further comprising

a third micro-electromechanical system (MEMS) device containing a third number of micro mirrors;

a fourth micro-electromechanical system (MEMS) device containing a fourth number of micro mirrors; and

a second imaging system optically coupled to said third MEMS device so as to produce an image of each of said micro mirrors of said third MEMS device on a corresponding micro mirror of said fourth MEMS device;

whereby at least one of said micro mirrors of said third MEMS device is grouped with at least one of said micro mirrors of said fourth MEMS device such that the angle of reflection from said at least one grouped micro mirror of said third MEMS device and the angle of reflection from said at least one grouped micro mirror of said fourth MEMS device combine to produce an overall effective angle for said group of micro mirrors of said third and fourth MEMS devices.

Unchanged claim 19

19. An optical switch, comprising

a first micro-electro mechanical system (MEMS) device containing a first number of micro mirrors;

a second micro-electromechanical system (MEMS) device containing a second number of micro mirrors;

a first imaging system optically coupled to said first MEMS device so as to produce an image of each of said micro mirrors of said first MEMS device on a corresponding micro mirror of said second MEMS device; and

a third micro-electromechanical system (MEMS) device containing a third number of micro mirrors;

whereby at least one of said micro mirrors of said first MEMS device is grouped with at least one of said micro mirrors of said second MEMS device such that the angle of reflection from said at least one grouped micro mirror of said first MEMS device and the angle of reflection from said at least one grouped micro mirror of said second MEMS device combine to produce an overall effective angle for said group;

and wherein light reflected by said micro mirrors of said third MEMS device is coupled to said first MEMS device.

Unchanged claim 20

20. The invention as defined in claim 1 further comprising:

a third micro-electromechanical system (MEMS) device containing a third number of micro mirrors;

and wherein light reflected by said micro mirrors of said second MEMS device is coupled to said third MEMS device.

Cancel claim 21

Unchanged claim 22

22. The invention as defined in claim 1 wherein said first MEMS device is arranged to act as a booster.

Unchanged claim 23

23. The invention as defined in claim 1 wherein each of said grouped micro mirrors effectively contribute different angles to said overall effective angle for said group.

Unchanged claim 24

24. The invention as defined in claim 1 wherein one of each of said grouped micro mirrors effectuates coarse tilt and the other effectuates fine control.

Cancel claims 25-26

Replacement claim 27

27. (Twice amended) A method for operating an optical switch including a first micro-electromechanical system (MEMS) device containing a first number of micro mirrors tiltable about at least a first axis, a second micro-electromechanical system (MEMS) device containing a second number of micro mirrors tiltable about at least said first axis, the method comprising the step of:

imaging said first optical MEMS device onto said second optical MEMS device so that the angle of reflection from at least one micro mirror of said first optical MEMS device and the angle of reflection from at least one micro mirror of said second MEMS device combine to produce an overall effective angle about at least said first axis when considering said least one micro mirror of said first optical MEMS device and said at least one micro mirror of said second MEMS device as a group, said overall effective angle being <u>different</u> than either the angle of reflection from said at least one grouped micro mirror of said first MEMS device and the angle of reflection from said at least one grouped micro mirror of said second MEMS device <u>when neither one of the angle of reflection from said at least one micro mirror of said first MEMS device and the angle of reflection from said at least one micro mirror of said second MEMS device that are being combined is zero</u>.

Unchanged claim 28

28. The invention as defined in claim 27 further comprising the step of passing light from said second optical MEMS device through a field lens.

Unchanged claim 29

29. The invention as defined in claim 27 further comprising the step of receiving light from a field lens at said first optical MEMS device.

Unchanged claim 30

30. The invention as defined in claim 27 further comprising the step of coupling light passed from a fiber at said first optical MEMS device.

Unchanged claim 31

31. The invention as defined in claim 27 further comprising the step of coupling light from said second optical MEMS device to a fiber.

Replacement claim 32

32. (Twice amended) An optical switch, comprising

a first micro reflective means mounted on a first micro-electromechanical system (MEMS) means tiltable about at least a first axis;

a second micro reflective means mounted on a second micro-electromechanical system (MEMS) means tiltable about at least said first axis;

a first imaging means optically arranged to produce an image of said first micro reflective means at said second micro reflective means such that the angle of reflection of said first micro reflective means and the angle of reflection from said second micro reflective means combine about said first axis to produce an overall effective reflective angle that is different than either the angle of reflection of said first micro reflective means and the angle of reflection from said at least second micro reflective means when neither one of the angle of reflection from said first micro reflective means and the angle of reflection from said second micro reflective means is zero.